March 22, 2015

Peter Barnes, Engineering Geologist
State Water Resources Control Board
Water Quality Certification Program
P.O. Box 2000
Sacramento, CA 95812-2000

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Dear Mr. Barnes,

My name is Mary McMillan. My husband, Dan, and I recently purchased a lot in Lake Almanor to build our retirement home here. We were drawn to the Lake Almanor Basin for its beauty and recreation activities. My husband is an avid fisherman and Lake Almanor is known for being one of the best fishing locations in California. I love the lake activities and abundance of hiking trails the area has to offer.

Being relatively new to the community this is my "first pass" on understanding the potential installation of a thermal curtain / cold water release in Lake Almanor. I think the primary goal is to decrease/maintain lower Feather River water temperature at 20 degrees C for downstream fish health. If I understand it correctly, there is now talk that they are thinking of "experimenting" with cold water releases out of the base of Canyon Dam at 250 cfs to 600 scf . What I struggle to comprehend, and believe, is that a discharge rate of 250 cfs to 600 cfs of cold water from Lake Almanor- whether it be via a Thermal Curtain or base of the Dam - would really make a significant difference 45 miles downstream when river flows and depths are at a minimum in the summer months of July, August and September. Water to air surface area would be constant and given the seasonal hot ambient air temperatures (transfer rates) and time allotment for travel, I question whether or not one would see any temperature change. I would have hoped there would be concrete proof to illustrate a thermal curtain installation would work - given the known huge negative magnitude of this project on this community. Unfortunately, the information I've found does not support this….

I copied the following paragraph from a PG & E report entitled "North Fork Feather River Study Data and Informational Report on Water Temperature Monitoring and Additional R
Amended September 2005. This report represents the results of PG&E's evaluation of water temperature monitoring, modeling and control options, reflects only PG&E's views and is being submitted to the Rock Creek – Cresta Ecological Resources Committee (ERC) so that the ERC may review the report and begin working towards recommendations concerning flow and Project

operations and, if feasible, making any affirmative determinations concerning water temperature control actions.

Taken from Page 2 in the Executive Summary:

"Licensee's (PG&E) analysis of each of the twenty-four potential water temperature control alternatives indicates that some of the first and second category alternatives (thermal curtain and increased magnitude water releases) have the **best potential** to reduce water temperatures in the Rock Creek and Cresta reaches. **Sophisticated computer modeling** indicates that some of these alternatives have the **potential** to reduce water temperatures from 1 to 3°C in July and August. **However, such reductions in water temperature would only increase the cold-water trout habitat in the Rock Creek Reach by about 3 to 8 percent and in the Cresta Reach by about 0.5 to 2 percent in July and August of Normal water years. The overall benefits of such modest gains in cold water trout habitat are very limited and likely not measurable given natural fish population variability. Also, these alternatives would likely have a corresponding potential effect of reducing cold-water fish habitat in Lake Almanor and reducing fish production in Butt Valley Reservoir, resulting in a decrease of the aquatic resources and recreational value at each of these reservoirs.**

There are too many "potentials" and not enough facts….

The report goes on to touch on the 24 potential water temperature control alternatives. **I firmly believe that if you want temperature reduction, you need to address it at the site.** I see in Category 3, noted below, they have attempted to do this. I've only included Alternate 15 as viable and worth further investigation. As stated, I understand that there is definitely a "cost" for the electric power to operate these chillers but the power is there and what we're talking about is less power available to sell or lost opportunity. Then there is the cost to purchase and operate the capital equipment and space requirement. All noted but at what cost and is it really "cheaper" given the other alternatives and impact on the Lake Almanor Basin. Additionally, if we're talking about fish health, I would encourage investigating the injection of oxygen (potentially liquid oxygen) to boost the dissolved oxygen content in the colder waters.

Category 3 –Obtain Cold Water from Sources Other than Lake Almanor

Alternative 15 – Construct Mechanical Water Chillers at Belden, Rock Creek, Cresta and Poe Dams. This alternative consists of constructing and operating mechanical water chillers at each of the four dams to cool incoming river water approximately 1°C and deliver it back to the NFFR below each dam. Even to achieve a modest 1°C water temperature reduction would require six very large water chillers and three large cooling towers at each dam. Adequate space to site the chillers and cooling towers does not exist at or in the immediate vicinity of each dam, leading to extremely challenging and costly construction. This

alternative would also require a substantial amount of electric power to operate the water chillers and the cooling towers. The modest level of water temperature benefits for this alternative is not commensurate with the corresponding adverse effects and costs, leading to the conclusion that it is not a reasonable water temperature control measure.

In conclusion, I am OPPOSED to either the installation of a thermal curtain or any cold-water release from Lake Almanor. I believe the DEIR has discounted how negatively such an installation will affect our community. Major public concerns, as noted in the report were classified as “insignificant” and “no impact” and “no significant impact” Those reckless and irresponsible replies beg me to ask…, “who is making the judgment call here?” Because they are definitely a concern to those of us living in this beautiful area…. **I strongly urge the State Water Board to only consider the PG&E project, as submitted and approved in the Settlement Agreement of April 22, 2004, without the additional release of cold water from Lake Almanor.**

Sincerely,

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